



**Instytut Ceramiki
i Materiałów
Budowlanych**

**DIVISION OF GLASS AND BUILDING MATERIALS IN KRAKOW
DEPARTMENT OF CONCRETE, MORTARS
AND AGGREGATES**

31-983 KRAKOW, ul. Cementowa 8
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AB 054

Total numbers of pages: 4		Test report no SB/361/14		Page 1 st
CUSTOMER/ MANUFACTURER		BAUWER Sp. z o.o., ul. Dojazd Staroniwa 9/19, 35-011 Rzeszów		
AGREEMENT/ORDER NO		358/14/3SB/3LB06200	NO OF ISSUE	SB.510-85/14
RESEARCH PROCEDURE /TEST METHODS: PN-EN 1015-2:2000, PN-EN 1015-3:2000, PN-EN 1015-3:2000/A1:2004, PN-EN 1015-3:2000/A2:2007, PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007, PN-EN 1015-9:2001, PN-EN 1015-9:2001/A1:2007, PN-EN 1015-11:2001, PN-EN 1015-11:2001/A1:2007; PN-EN 1015-12: 2002, PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005,				
Registration number:		630/z/14		
Unique identification code of the product type:		BAUWER LIGHT		
Method of bulk sampling, person taking the sample, date and place of sampling (data in accordance with the manufacturer's statement):		The bulk sample was sampled by Customer according to PN-EN 1015-2:2000; PN-EN 1015-2:2000/A1:2007, date of sampling September 5, 2014. Place of sampling: Product Store. Adres: 36-062 Zaczernie 791. Sampling certificate of September 5, 2014. Person taking the bulk sample: Oleksandr Mishchuk. Batch number: PL100614BL		
Date of sample registration in the laboratory:		September 8, 2014		
Method of bulk sampling and storage of the sample before testing in ICIMB OSiMB laboratory in Cracow		Manufacturer has delivered 14 kg (2 × 7 kg) of dry mortar. Because of using the entirely whole content of the package the archival sample was not taken. During the whole testing time the samples were stored in a dry place at the temperature of 20±2°C.		
Preparation of the test mortars		Fresh mortar was made according to the following procedure: the whole content of the dry mortar package was added into the container and the particular amount of water (according to manufacturer's statement) was poured into it, next the all components were mixed together at low speed by electric mixer till achieving the homogeneous consistency of mortar – app. 4 min. After that time the mortar was put away for about 5 min and after it re-mixed. The samples were made in presence of the Customer.		
Water/ dry mortar ratio		0,886, i.e. 6200 ml water per 7000 g of dry mortar		
Test conditions		Complied with the requirements determined in above mentioned test methods.		

Total numbers of pages: 4		Test report no SB/361/14								Page 2 nd		
TEST RESULTS												
No.	Properties		Indication results				Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date			
									beginning	ending		
1	2		3				4	5	6			
1.	Consistence of fresh mortar, mm	determined by flow table	128	128	128	129	128 \pm 4	PN-EN 1015-3:2000; PN-EN 1015-3:2000/ A1:2005; PN-EN 1015-3:2000/ A2:2007	08.09.2014			
2.	Bulk density of fresh mortar, kg/m ³	determined by shock method	590		590		590 \pm 20	PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007	08.09.2014			
3.	A	Workable life of general purpose mortar by penetration of a standard rod, min	415		415		415	PN-EN 1015-9:2001; PN-EN 1015-9:2001 /A1:2007	16.09.2014			
4.	Flexural strength of hardened mortar, N/mm ²		0,35		0,35		0,40	0,4 \pm 0,2	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014	
5.	Compressive strength of hardened mortar, N/mm ²		0,65	0,85	0,75	0,70	0,70	0,65	0,7 \pm 0,2	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014
6.	Adhesive strength, N/mm ² And type of fracture pattern		>0,10 FP: B	>0,05 FP: A/B	>0,05 FP: B	>0,10 FP: B	>0,10 FP: B	>0,1 \pm 0,2 FP: B	PN-EN 1015-12: 2002	08.09.2014	06.10.2014	
The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely.												

Total numbers of pages: 4		Test report no SB/361/14							Page 3 rd			
TEST RESULTS												
No.	Properties		Indication results					Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date		
										beginning	ending	
1	2		3					4	5	6		
7.	Water vapour permeability of hardened mortar with thickness $d=0,02$ m		Hydroscopic range						PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005	16.09.2014	30.10.2014	
	A	Moisture permeability Λ , $\text{kg/m}^2\cdot\text{s}\cdot\text{Pa}$	Higher (saturated solution of KNO_3)	2,3811	2,3747	2,5785	2,2840	2,5677				2,4372
		Moisture transfer coefficient = $\Lambda\cdot d$, $\text{kg/m}\cdot\text{s}\cdot\text{Pa}$		0,04874								
		Moisture permeability coefficient, μ		4,0 \pm 1,5								
	B	Moisture permeability Λ , $\text{kg/m}^2\cdot\text{s}\cdot\text{Pa}$	Lower (saturated solution of LiCl)	1,3222	1,1772	1,1911	1,2642	1,2443				1,2398
		Moisture transfer coefficient = $\Lambda\cdot d$, $\text{kg/m}\cdot\text{s}\cdot\text{Pa}$		0,0248								
		Moisture permeability coefficient, μ		7,8 \pm 1,5								
The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely.												

Total numbers of pages: 4	Test report no SB/361/14	Page 4 th
*) The given values of tolerance are extender tolerance, it was calculated for confidence level of 95% and coefficient of 2 and do not include the sampling step.		
NOTE: Final test report.		
Krakow, November 17, 2014		

Signature of verifying person

Kierownik
Zakładu Betonów, Zapraw i Kruszyw
Adiunka
Najduchowska
Dr inż. Marzena Najduchowska

Signature of entitled person

Zastępca Kierownika
Zakładu Betonów, Zapraw i Kruszyw
mgr inż. Jerzy Balacha



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CUSTOMER/MANUFACTURER		BAUWER Sp. z o.o., ul. Dojazd Staroniwa 9/19, 35-011 Rzeszów		
AGREEMENT/ORDER NO	358/14/3SB/3LB06200	NO OF ISSUE	SB.510-85/14	
RESEARCH PROCEDURE/ TEST METHODS				
PN-EN 1015-2:2000, PN-EN 1015-3:2000, PN-EN 1015-3:2000/A1:2004, PN-EN 1015-3:2000/A2:2007, PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007, PN-EN 1015-9:2001, PN-EN 1015-9:2001/A1:2007, PN-EN 1015-11:2001, PN-EN 1015-11:2001/A1:2007; PN-EN 1015-12: 2002, PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005,				
Registration number:	631/z/14			
Unique identification code of the product type:	BAUWER STANDARD			
Method of bulk sampling, person taking the sample, date and place of sampling (data in accordance with the manufacturer's statement):	The bulk sample was sampled by Customer according to PN-EN 1015-2:2000; PN-EN 1015-2:2000/A1:2007, date of sampling September 5, 2014. Place of sampling: Product Store. Adres: 36-062 Zaczernie 791. Sampling certificate of September 5, 2014. Person taking the bulk sample: Oleksandr Mishchuk. Batch number: PL100614BS			
Date of sample registration in the laboratory:	September 8, 2014			
Method of bulk sampling and storage of the sample before testing in ICiMB OSiMB laboratory in Krakow	Customer has delivered 23 kg (2 × 11,5 kg) of dry mortar. Because of using the entirely whole content of the package the archival sample was not taken . During the whole testing time the samples were stored in a dry place at the temperature of 20±2°C			
Preparation of the test mortars	Fresh mortar was made according to the following procedure: the whole content of the dry mortar package was added into the container and the particular amount of water (according to manufacturer's statement) was poured into it, next the all components were mixed together at low speed by electric mixer till achieving the homogeneous consistency of mortar – app. 4 min. After that time the mortar was put away for about 5 min and after it re-mixed. The samples were made in presence of the Manufacture			
Water /dry mortar ratio	0,652, i.e. 7500 ml water per 11500 g of dry mortar			
Test conditions	Complied with the requirements determined in above mentioned test methods.			


Total numbers of pages: 4		Test report no SB/362/14								Page 2 nd		
TEST RESULTS												
No.	Properties		Indication results				Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date			
									beginning	ending		
1	2		3				4	5	6			
1.	Consistence of fresh mortar, mm	determined by flow table	140	140	139	140	140 \pm 4	PN-EN 1015-3:2000; PN-EN 1015-3:2000/ A1:2005; PN-EN 1015-3:2000/ A2:2007	08.09.2014			
2.	Bulk density of fresh mortar, kg/m ³	determined by shock method	860		860		860 \pm 20	PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007	08.09.2014			
3.	A	Workable life of general purpose mortar by penetration of a standard rod, min	370		370		370	PN-EN 1015-9:2001; PN-EN 1015-9:2001 /A1:2007	08.09.2014			
4.	Flexural strength of hardened mortar, N/mm ²		1,55		1,55		1,45	1,5 \pm 0,2	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014	
5.	Compressive strength of hardened mortar, N/mm ²		4,05	3,65	4,20	3,75	3,70	3,55	3,8 \pm 0,2	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014
6.	Adhesive strength, N/mm ² And type of fracture pattern		>0,30 FP: A/B	>0,40 FP: B	>0,35 FP: B	>0,30 FP: A/B	>0,50 FP: B	>0,4 \pm 0,2 FP: B	PN-EN 1015-12: 2002	08.09.2014	06.10.2014	
The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely.												

Total numbers of pages: 4		Test report no SB/362/14							Page 3 rd					
TEST RESULTS														
No.	Properties		Indication results					Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date				
										beginning	ending			
1	2		3					1	2	3				
7.	Water vapour permeability of hardened mortar with thickness d=0,02 m		Hydroscopic range											
	A	Moisture permeability Λ , kg/m ² •s•Pa	Higher (saturated solution of KNO ₃)	2,0017	1,9598	1,9269	2,0079						2,1423	2,0077
		Moisture transfer coefficient = $\Lambda \cdot d$, kg/m•s•Pa		0,04015										
		Moisture permeability coefficient, μ		4,8 \pm 1,5										
	B	Moisture permeability Λ , kg/m ² •s•Pa	Lower (saturated solution of LiCl)	0,9552	0,8542	0,9006	0,8128	0,8554	0,8756	PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005	08.09.2014	06.11.2014		
		Moisture transfer coefficient = $\Lambda \cdot d$, kg/m•s•Pa		0,01751										
		Moisture permeability coefficient μ		11,1 \pm 1,5										

The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely.

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NOTE: Final test report.		
Kraków, November 17, 2014		




Signature of verifying person

Kierownik
Zakładu Betonów, Zapraw i Kruszyw
Adiunkci

Dr inż. Marzena Najduchowska

Signature of entitled person

Zastępca Kierownika
Zakładu Betonów, Zapraw i Kruszyw

mgr inż. Jerzy Balacha

 Instytut Ceramiki i Materiałów Budowlanych		DIVISION OF GLASS AND BUILDING MATERIALS IN KRAKOW DEPARTMENT OF CONCRETE, MORTARS AND AGGREGATES 31-983 KRAKOW, ul. Cementowa 8 phone.: (12) 683 79 00, fax: (12) 683 79 01 www.icimb.pl info_krakow@icimb.pl			 AB 054
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CUSTOMER / MANUFACTURER		BAUWER Sp. z o.o., ul. Dojazd Staroniwa 9/19, 35-011 Rzeszów			
AGREEMENT/ORDER NO		358/14/3SB/3LB06200	NO OF ISSUE		SB.510-85/14
RESEARCH PROCEDURE /TEST METHODS PN-EN 1015-2:2000, PN-EN 1015-3:2000, PN-EN 1015-3:2000/A1:2004, PN-EN 1015-3:2000/A2:2007, PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007, PN-EN 1015-9:2001, PN-EN 1015-9:2001/A1:2007, PN-EN 1015-11:2001, PN-EN 1015-11:2001/A1:2007; PN-EN 1015-12: 2002, PN-EN 1015-18:2003, PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005, PN-85/B-04500					
Registration number:		632/z/14			
Unique identification code of the product type:		BAUWER PREMIUM			
Method of bulk sampling, person taking the sample, date and place of sampling (data in accordance with the manufacturer's statement):		The bulk sample was sampled by Customer according to PN-EN 1015-2:2000; PN-EN 1015-2:2000/A1:2007, date of sampling September 5, 2014. Place of sampling: Product Store. Adres: 36-062 Zaczemie 791. Sampling certificate of September 5, 2014. Person taking the bulk sample: Oleksandr Mishchuk. Batch number: PL100614BP			
Date of sample registration in the laboratory:		September 8, 2014			
Method of bulk sampling and storage of the sample before testing in ICiMB OSiMB laboratory in Krakow		Customer has delivered 20 kg (2 × 10 kg) of dry mortar. Because of using the entirely whole content of the package the archival sample was not taken . During the whole testing time the samples were stored in a dry place at the temperature of 20±2°C			
Preparation of the test mortars		Fresh mortar was made according to the following procedure: the whole content of the dry mortar package was added into the container and the particular amount of water (according to manufacturer's statement) was poured into it, next the all components were mixed together at low speed by electric mixer till achieving the homogeneous consistency of mortar – app. 4 min. After that time the mortar was put away for about 5 min and after it re-mixed. The samples were made in presence of the Customer.			
Water /dry mortar ratio		0,4, i.e. 4000 ml water per 10000 g of dry mortar			
Test conditions		Complied with the requirements determined in above mentioned test methods.			

Total numbers of pages: 6		Test report no SB/363/14							Page 2 nd			
TEST RESULTS												
No.	Properties		Indication results					Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date		
										beginning	ending	
1	2		3					4	5	6		
1.	Consistence of fresh mortar, mm	determined by flow table	120	122	122	121		121 \pm 4	PN-EN 1015-3:2000; PN-EN 1015-3:2000/ A1:2005; PN-EN 1015-3:2000/ A2:2007	08.09.2014		
2.	Bulk density of fresh mortar, kg/m ³	determined by shock method	620		620			620 \pm 20	PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007	08.09.2014		
3.	A	Workable life of general purpose mortar by penetration of a standard rod, min	502		522			512	PN-EN 1015-9:2001; PN-EN 1015-9:2001 /A1:2007	19.09.2014		
4.	Flexural strength of hardened mortar, N/mm ²		1,50		1,65		1,80	1,6 \pm 0,2	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014	
5.	Compressive strength of hardened mortar, N/mm ²		3,40	3,50	3,55	3,50	3,50	3,60	3,5 \pm 0,2	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014
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Total numbers of pages: 6		Test report no SB/363/14							Page 3 rd		
TEST RESULTS											
No.	Properties	Indication results						Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date	
										beginning	ending
1	2	3						4	5	6	
6.	Adhesive strength, N/mm ² and type of fracture pattern	>0,90 FP: B	>0,95 FP: B	>0,75 FP: B	>0,90 FP: B	>0,65 FP: B		>0,8 \pm 0,4 FP: B	PN-EN 1015-12: 2002	08.09.2014	06.10.2014
7.	Water absorption coefficient due to capillary action of hardened mortar, kg/m ²	0,75	0,70	0,80	0,75	0,70	0,80	0,7 \pm 0,7	PN-EN 1015-18:2003	08.09.2014	10.10.2014
8.	Penetration depth after the test of water absorption due to capillary action, mm	2	3	4	3	3	3	3		08.09.2014	10.10.2014
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TEST RESULTS																	
No.	Properties		Indication results					Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date							
										beginning	ending						
1	2		3					4	5	6							
9.	Water vapour permeability of hardened mortar with thickness d=0,02 m		Hydroscopic range							PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005	19.09.2014	23.10.2014					
	A	Moisture permeability Λ , kg/m ² ·s·Pa	Higher (saturated solution of KNO ₃)	1,2582									1,1632	1,1651	1,2331	1,2543	1,2148
		Moisture transfer coefficient = $\Lambda \cdot d$, kg/m·s·Pa		0,02430													
		Moisture permeability coefficient, μ		8,0 \pm 1,5													
	B	Moisture permeability Λ , kg/m ² ·s·Pa	Lower (saturated solution of LiCl)	0,4418	0,5059	0,5031	0,5024	0,5080	0,4922		19.09.2014	23.10.2014					
		Moisture transfer coefficient = $\Lambda \cdot d$, kg/m·s·Pa		0,00984													
		Moisture permeability coefficient μ		19,7 \pm 1,5													
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Total numbers of pages: 6

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TEST RESULTS

No.	Properties		Indication results						Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date		
											beginning	ending	
1	2		3						4	5	6		
10.	Freeze-thaw resistance:		Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Sample 6		PN-85/B-04500	08.09.2014	12.11.2014	
	A	Mass of dried samples exposed to freeze-thaw test, g	before freeze-thaw cycles	129,6	130,1	132,4	134,1	130,6					131,7
			after freeze-thaw cycles	130,6	131,1	133,2	135,1	131,6					132,7
	Percentage loss of mass		no	no	no	no	no	no	no				
	B			Sample 7	Sample 8	Sample 9	Sample 10	Sample 11	Sample 12				
		Mass of dried control samples exposed to freeze-thaw test, g	before soaking	129,4	131,7	131,2	131,5	130,8	132,4				
			after soaking	130,1	132,5	131,8	132,0	131,2	133,1				
		Percentage loss of mass		no	no	no	no	no	no				no
	C	Flexural strength, N/mm ²	Samples not exposed to freeze-thaw test	1,50	1,36	1,64	1,55	1,62	1,57				1,54
			Samples exposed to freeze-thaw test	1,50	1,52	1,52	1,50	1,48	1,50				1,50
		Percentage loss of flexural strength of the samples, %		2,3									
		D	Compressive strength, N/mm ²	Samples not exposed to freeze-thaw test	2,94 3,31	3,56 3,38	3,06 3,31	3,44 3,06	3,44 3,19				3,69 3,31
	Samples exposed to freeze-thaw test			3,19 3,13	3,31 3,44	2,81 3,06	3,00 3,44	3,19 2,94	3,44 3,50				3,20
	Percentage loss of compressive strength of the samples, %		3,3										

The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely.

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*) The given values of tolerance are extender tolerance, it was calculated for confidence level of 95% and coefficient of 2 and do not include the sampling step.		
NOTE: Final test report.		
Kraków, November 17, 2014		

Signature of verifying person

Kierownik
Zakładu Betonów, Zapraw i Kruszyw
Adiunka
Najduchowska
Dr inż. Małgorzata Najduchowska

Signature of entitled person

Zastępca Kierownika
Zakładu Betonów, Zapraw i Kruszyw
mgr inż. Jerzy Balacha



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Total numbers of pages: 4

Test report no SB/364/14

Page 1st

CUSTOMER / MANUFACTURER

BAUWER Sp. z o.o., ul. Dojazd Staroniwa 9/19, 35-011 Rzeszów

AGREEMENT/ORDER NO

358/14/3SB/3LB06200

NO OF ISSUE

SB.510-85/14

RESEARCH PROCEDURE /TEST METHODS:

PN-EN 1015-2:2000, PN-EN 1015-3:2000, PN-EN 1015-3:2000/A1:2004, PN-EN 1015-3:2000/A2:2007, PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007, PN-EN 1015-9:2001, PN-EN 1015-9:2001/A1:2007, PN-EN 1015-11:2001, PN-EN 1015-11:2001/A1:2007; PN-EN 1015-12: 2002, PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005,

Registration number

633/z/14

Unique identification code of the product type:

BAUWER SZPACHLA

Method of bulk sampling, person taking the sample, date and place of sampling (data in accordance with the manufacturer's statement):

The bulk sample was sampled by Customer according to PN-EN 1015-2:2000; PN-EN 1015-2:2000/A1:2007, date of sampling September 5, 2014.

Place of sampling: Product Store. Adres: 36-062 Zaczernie 791. Sampling certificate of September 5, 2014.

Person taking the bulk sample: Oleksandr Mishchuk. Batch number: PL100614SS

Date of sample registration in the laboratory:

September 8, 2014

Method of bulk sampling and storage of the sample before testing in ICiMB OSiMB laboratory in Krakow

Customer has delivered 30 kg (2 × 15 kg) of dry mortar.

Because of using the entirely whole content of the package the archival sample was not taken .

During the whole testing time the samples were stored in a dry place at the temperature of 20±2°C

Preparation of the test mortars

Fresh mortar was made according to the following procedure: the whole content of the dry mortar package was added into the container and the particular amount of water (according to manufacturer's statement) was poured into it, next the all components were mixed together at low speed by electric mixer till achieving the homogeneous consistency of mortar – app. 4 min. After that time the mortar was put away for about 5 min and after it re-mixed. The samples were made in presence of the Customer.

Water /dry mortar ratio

0,367, i.e. 5500 ml water per 15000 g of dry mortar

Test conditions

Complied with the requirements determined in above mentioned test methods.

Total numbers of pages: 4		Test report no SB/364/14							Page 2 nd			
TEST RESULTS												
No.	Properties		Indication results				Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date			
									beginning	ending		
1	2		3				4	5	6			
1.	Consistence of fresh mortar, mm	determined by flow table	142	142	141	142	142 \pm 4	PN-EN 1015-3:2000; PN-EN 1015-3:2000/ A1:2005; PN-EN 1015-3:2000/ A2:2007	08.09.2014			
2.	Bulk density of fresh mortar, kg/m ³	determined by shock method	1250		1260		1260 \pm 20	PN-EN 1015-6:2000; PN-EN 1015-6:2000/A1:2007	08.09.2014			
3.	A	Workable life of general purpose mortar by penetration of a standard rod, min	280		280		280	PN-EN 1015-9:2001; PN-EN 1015-9:2001 /A1:2007	24.09.2014			
4.	Flexural strength of hardened mortar, N/mm ²		2,10		2,95		2,90	2,7 \pm 1,0	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014	
5.	Compressive strength of hardened mortar, N/mm ²		13,40	14,15	12,45	13,75	13,10	12,95	13,3 \pm 2,1	PN-EN 1015-11:2001; PN-EN 1015-11:2001 /A1:2007 pt. 7.2.2	08.09.2014	06.10.2014
6.	Adhesive strength, N/mm ² and type of fracture pattern		>0,80 FP: B	>0,75 FP: B	>0,60 FP: B	>0,75 FP: B	>0,75 FP: B	>0,7 \pm 0,4 FP: B	PN-EN 1015-12: 2002	08.09.2014	06.10.2014	
The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely												

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TEST RESULTS

No.	Properties		Indication results					Mean value \pm tolerance ^{*)}	Test in accordance with	Testing date	
										beginning	ending
1	2		3					4	5	6	
7.	Water vapour permeability of hardened mortar with thickness d=0,02 m								PN-EN 1015-19: 2000; PN-EN 1015-19: 2000/A1:2005	08.09.2014	15.11.2014
	A	Hydroscopic range									
		Moisture permeability Λ , kg/m ² •s•Pa	0,8713	0,8963	0,8508	0,9205	0,8813	0,8840			
		Moisture transfer coefficient = $\Lambda \cdot d$, kg/m•s•Pa						0,01768			
		Moisture permeability coefficient, μ						11,0 \pm 1,5			
	B	Higher (saturated solution of KNO ₃)									
		Moisture permeability Λ , kg/m ² •s•Pa	0,3686	0,3734	0,3400	0,3516	0,3529	0,3573		08.09.2014	15.11.2014
		Moisture transfer coefficient = $\Lambda \cdot d$, kg/m•s•Pa						0,00715			
		Moisture permeability coefficient, μ						27,1 \pm 1,5			
	Lower (saturated solution of LiCl)										

The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely

Total numbers of pages: 4	Test report no SB/364/14	Page 4 th
*) The given values of tolerance are extender tolerance, it was calculated for confidence level of 95% and coefficient of 2 and do not include the sampling step.		
NOTE: Final test report.		
Kraków, November 17, 2014		

Signature of verifying person

Kierownik
Zakładu Betonów, Zapraw i Kruszyw
Adiunkt
Najduchowska
Dr inż. Małgorzata Najduchowska

Signature of entitled person

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**Instytut Ceramiki
i Materiałów
Budowlanych**

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AB 054

Total numbers of pages: 3		Test report no SB/368/14		Page 1 st
CUSTOMER / MANUFACTURER		BAUWER Sp. z o.o., ul. Dojazd Staroniwa 9/19, 35-011 Rzeszów		
AGREEMENT/ORDER NO		358/14/3SB/3LB06200	NO OF ISSUE	SB.510-85/14
RESEARCH PROCEDURE /TEST METHODS: PN-EN 13454-2+A1:2008, PN-EN 13892-2 :2004, PN-EN 13892-8:2004				
Registration number:		634/z/14		
Unique identification code of the product type:		BAUWER FLOOR		
Method of bulk sampling, person taking the sample, date and place of sampling (data in accordance with the manufacturer's statement):		The bulk sample was sampled by Customer according to PN-EN 1015-2:2000; PN-EN 1015-2:2000/A1:2007, date of sampling September 5, 2014. Place of sampling: Product Store. Adres: 36-062 Zaczernie 791. Sampling certificate of September 5, 2014. Person taking the bulk sample: Oleksandr Mishchuk. Batch number: PL100614WP		
Date of sample registration in the laboratory:		September 8, 2014		
Method of bulk sampling and storage of the sample before testing in ICiMB OSiMB laboratory in Krakow		Customer has delivered 24 kg (2 × 12 kg) of dry mortar. Because of using the entirely whole content of the package the archival sample was not taken . During the whole testing time the samples were stored in a dry place at the temperature of 20±2°C		
Preparation of the test mortars		Fresh mortar was made according to the following procedure: the whole content of the dry mortar package was added into the container and the particular amount of water (according to manufacturer's statement) was poured into it, next the all components were mixed together at low speed by electric mixer till achieving the homogeneous consistency of mortar – app. 4 min. After that time the mortar was put away for about 5 min and after it re-mixed. The samples were made in presence of the Customer.		
Water /dry mortar ratio		0,875, i.e. 10500 ml water per 12000 g of dry mortar		
Test conditions		Complied with the requirements determined in above mentioned test methods.		

Total numbers of pages: 3			Test report no SB/368/14								Page 2 nd	
TEST RESULTS												
No.	Properties		Indication results					Mean value \pm tolerance ¹⁾	Test in accordance with	Testing date		
										beginning	ending	
1	2		3					4	5	6		
1.	Consistence of fresh mortar:	C determined by flow table, flow in mm	175	174	176	175	175	PN-EN 13454-2+A1:2008 p. 4.4.2.2.2	08.09.2014			
Test was conducted by S. Nagieć												
2.	Flexural and compressive strength of hardened mortar, N/mm ²	Sample - prism	1		2		3		0,9±0,5	PN-EN 13892-2 :2004	08.09.2014	06.10.2014
		Sample density, g/cm ³	0,416		0,413		0,417					
		Flexural strength, N/mm ² ⁽¹⁾	0,80		0,85		0,95					
		Compressive strength of hardened mortar, N/mm ² ⁽²⁾	1,85	1,75	1,90	1,75	1,80	1,90				
Test was conducted by J. Balacha												
3.	Bond strength ⁽³⁾	Sample	1	2	3	4	5	0,05 X/Y	PN-EN 13892-8:2004	08.09.2014	06.10.2014	
		Bond strength, N/mm ²	0,05	0,05	0,05	0,05	0,05					
		Type of fracture pattern ⁽⁴⁾	X/Y	X/Y	X/Y	X/Y	X/Y					
Test was conducted by J. Balacha												
The test results apply to the test samples, only. Without consent of the research laboratory the test report cannot be copied in any other form but only entirely.												

Total numbers of pages: 3	Test report no SB/368/14	Page 3 rd
<p>^{*)} The given values of tolerance are extender tolerance, it was calculated for confidence level of 95% and coefficient of 2 and do not include the sampling step.</p>		
<p>NOTES:</p> <p>¹ performed by using the compressive machine Matest no ST-8000287; measuring ranges 0-10 kN, Calibration certificate issued of July 28, 2014 by Calibration Laboratory APLAB Sp. z o.o. in Gdynia; accreditation no: AP072; certificate no: 389.8/2014.</p> <p>² performed by using the compressive machine Matest no ST-8000287; measuring ranges 0-250 kN, Calibration certificate issued of July 28, 2014 by Calibration Laboratory APLAB Sp. z o.o. in Gdynia; accreditation no: AP072; certificate no: 389.8/2014.</p> <p>³ performed by using the digital PULL-OFF strength tester no 006/01; measuring ranges 0-15 kN, Calibration certificate issued of July 28, 2014 by Calibration Laboratory APLAB Sp. z o.o. in Gdynia; accreditation no: AP072; certificate no: 389.3/2014.</p> <p>⁴ x/y – fracture at the interface between the mortar and substrate</p>		
Final test report		
Kraków, November 17, 2014		

Signature of verifying person

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